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SURVEY OF PROPOSED AREAS FOR
SEWER AND WATER EXTENSIONS
TOWN OF KENORA



Municipal & Private Abatement Section
Kenora District Office

October, 1975

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Kenora
1971-1972 Extension - Kenora
2. Major Extensions - Kenora
(15a)

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Ontario

Ministry of the
Environment

Northwestern
Region

R E P O R T

Municipality: Town of Kenora Inspection Date: October, 1975

Re: Survey of Proposed areas for Sewer & Water Extensions Within the Town of
Kenora

Inspection by: D. G. McMehen Report by: D. G. McMehen

INTRODUCTION

In this report the private water supply and sewage disposal systems are assessed in each of the eight areas where extension of municipal services are proposed within the Town of Kenora.

Assistance and information was provided by the following persons:

Mr. W. Stewart, P. Eng., Town of Kenora; Mr. R. A. Dunn, P. Eng., Ministry of the Environment; Mr. W. Herrick, Mr. D. Mundy and Mr. B. Bynski, Environmental Officers, Ministry of the Environment.

The eight areas surveyed are listed as follows in order of size:

1. South Norman,
2. Southeast,
3. Lakeside,
4. Trojan,
5. Pump, Railway, Maple,
6. Railway,
7. Coney Island,
8. Seventh Avenue, South.

Appendix A shows the locations of these areas. Each of these areas and the survey results are described separately in this report.

In general, the soil and topography are comprised for the most part of bed-rock covered with a variable depth of impermeable glacial till.

These conditions are not suited to the installation of subsurface private sewage disposal systems. If a suitable area of adequate size is available, which often is not the case, then fill can be imported. This fill usually involves large volumes which quite often must be mounded above grade because of a high water table. This mounding can result in an aesthetically unacceptable system.

The survey was conducted on a house to house basis during which approximately one-half of the owners or occupants were interviewed. When owners were not in, information was obtained, where possible, from neighbours and an inspection of the tilefield or disposal area was conducted in their absence. A statistical break-down of the number of problems found and the source of water supply is attached as Appendix B.

No figures are provided for the number of persons requesting services because so many were not in at the time of inspection. Of those who were interviewed, most wanted services, however, a small percent were against, usually because of the fear of increased taxes. Some wanted figures on the actual costs involved before they would be prepared to make any decision.

CONCLUSIONS AND RECOMMENDATIONS

Two areas, the Maple, Railway, Pump area and Coney area, should be given first priority on the basis of the number of major problems found. These areas should be followed by the Southeast, Norman and Seventh Avenue, South areas, probably in that order and again based on the number of problems found. Part of the Lakeside area, along 4th Avenue, South to the Chalet Resort would solve the existing problems in the Lakeside area. The balance of the Lakeside area, which is the larger part around the point, could be post-

poned for the time being, especially as many home owners in this area did not request the services. Further investigations of the Trojan area should be undertaken to determine how many home owners would be prepared and able to improve their homes with installation of plumbing systems in order to utilize the services if installed in this area.

SOUTH NORMAN

LOCATION

This area is located west of Tunnel Island and east of Keewatin or more specifically, east of Cameron Bay. On the north it is bounded by the C. P. R. tracks and on the south by Lake of the Woods. For further clarification, see the map attached as Appendix A.

POPULATION

The permanent residential population of this area would be approximately 250 persons. In addition, there is a sizeable transient population using the 5 motels and 1 hotel situated in the area along the Trans-Canada Highway. In the peak summer period, it is estimated a maximum of approximately 250 persons could utilize these facilities. There are also five eating establishments and one liscenced bar in the area which together could accomodate up to a maximum of approximately 300 persons. In total, the sewage load and water requirements could increase significantly during the summer tourist season.

SURVEY

The water and sewer facilities were examined at seventy-seven premises in this area. Of this number, fifty-one are connected to the Town water system, nineteen have their own water hauled by the Town, and seven draw their water privately from the Lake. It may be significant to note that three of the motels draw their water directly from the Lake and chlorinate. If their chlorination devices should fail, which is not uncommon with hypochlorinators, their many motel guests would be drinking raw water directly from a small Bay in the Lake of the Woods. This Bay also contains the Town of Kenora Norman intake pipe. From 1973 to 1975, one hundred and one raw water samples were taken from this Bay by Town of Kenora personnel. These samples showed the presence of total coliform organisms 100% of the time, and faecal coliform organisms 70% of the time, which would indicate that sewage has access to the Bay. Refer to Appendix C, attached.

Of the seventy-seven premises inspected, fourteen had major sewage disposal problems and ten potentially major sewer problems. A large number of the major problems between six and nine involve the direct discharge of sewage to Cameron Bay of Lake of the Woods by way of a common sewer. The actual point of discharge is located in a depressional area, several hundred feet east of Cameron Bay. Another problem involves a very much under-sized leaching bed exposed to surface run-off which services a motel on the lakeshore. Another involves the collection of sewage from 2 homes into a 3000 gals., 3 compartment septic tank, in which the third compartment acts as a chlorination contact chamber. A 1300 foot vinyl line carries the chlorinated effluent into the mainstream area of Lake of the Woods off the souther point of Scott's Island. See Appendix D.

Several systems were noted which were precariously installed in built-up terraced areas directly bordering the Lake well within the minimum distance from the Lake now required by the regulations. Malfunctions or discharges to the Lake could develop with these systems without any obvious perception of the problem. This was particularly noted around the culdesac at the end of Minnesota Street, and along the easterly lane extension to Bay Street, where many homes are built very close to the Lake.

DISCUSSION & CONCLUSION

In the long-term, little doubt exists that sewer and water facilities are very much needed in this area. Consideration might be given to remedial measures on a system to system basis which could correct some problems, at least in the short-term. However, it is doubtful that remedial or corrective measures are available within the scope of the applicable regulations, due to the small size of the lots involved and in many cases, their proximity to the Lake. No doubt, the three motels which haul sewage on a daily basis from holding tanks to the Sewage Treatment Plant would gratefully appreciate services because of the obvious savings.

Some segments of the proposal may not be possible because of the extreme costs involved. These would include servicing of Pearson Street, which is isolated at considerable distance from the balance of the proposal and the installation of sewage stubs to service the Norman Community Centre and Deitrick's Motel.

SOUTHEAST AREA

Location

This area includes highway 17 East from the westerly extremity of River Street to Pearl and Agur Streets past the District Jail. Also included in this area is River Street itself and Pine Portage Road both north and south of Highway 17 East. For further clarification see the map attached as Appendix A.

Population

The permanent residential population of this area would be approximately 350 persons. In addition there is a sizeable transient population using the 4 motels and one restaurant located along the Trans Canada Highway. In the peak summer period it is estimated a maximum of approximately 300 persons could utilize these facilities. In total the sewage load and water requirement could vary significantly depending upon the tourist business.

A provincial district jail is located in this area near Lawrencen Lake. However the jail has a new extended aeration sewage treatment plant which produces good quality effluent. Therefore presently it does not require sewer services.

Survey

The water and private sewage disposal facilities were surveyed at 91 premises in this area.

All residences except 4 are on town water. Of the 4 not on town water, 3 carry their water and one has a private well.

Among the 91 premises inspected, 24 were found to have major sewage disposal problems and another 24 minor or

potentially major sewage disposal problems. Two of these major problems involved motels, the 2 other motels in the area have installed their own private connections to the existing sewer system on River Street. The major sewage disposal problems at private residences totalling 22 were fairly well distributed throughout the area. This makes it difficult to pinpoint any part of the area which might be considered as having a greater number of problems. Approximately 6 pit privies are utilized in the area with 3 or 4 on Pine Portage Road north and 2 or 3 on Pine Portage Road south of Highway 17.

Discussion

Unquestionably sewage is gaining access to roadside ditches throughout the area and subsequently Laurensen Creek and Lake of the Woods. It is doubtful if many problems could be rectified within the Provincial regulations governing private sewage disposal systems. This follows from the small size of many lots or the existence in many cases of a high water table, bedrock and impermeable soil. Where sufficient area is available fill can be imported for a conventional system, however, if a high water table or bedrock necessitates that the fill be elevated very much above the existing grade then serious aesthetic problems may result.

Conclusion

There can be little doubt that sanitary sewers are the only permanent solution to the private sewage disposal problems in this area. In the short term remedial measures may be successful although these would in many cases entail improvisation outside the scope of the regulations.

LAKESIDE BEACH

LOCATION

This area includes Fourth Avenue, South from the termination of the existing sewer south to the lake and those parts of Third Avenue, South, Tenth Street, South and Lakeside Beach Road, that are located west of Anicinabi Park. For further clarification see the map attached as Appendix A.

POPULATION

The permanent residential population of this area is approximately 125 persons. This figure increases to between 150 and 175 during the summer period as some homes on the lake are occupied seasonally and one tourist establishments the Chalet Resort is within the area.

SURVEY

The water and sewer facilities were examined at 36 premises in this area. Of this number, 21 obtain their water directly from the lake, 12 are connected to the Town water system, 2 have private wells, and 1 has no water.

Five major sewage disposal problems were encountered in this area. Three are on 4th Ave., South, not far from the termination of the existing sewer. Another involves a serious malfunction at the Chalet Resort where sewage was surfacing on the shoreline embankment. The fifth was a malfunction in one of the Edwards systems, which was under repair at inspection. Some potential problems exist along the lake shoreline between 4th Ave., South and the Chalet. This was especially noted at M-Meadows where a system of unknown description is installed in a depressional area through which storm water is directed on its way to the lake.

DISCUSSION AND RECOMMENDATIONS

The above noted problems underline the necessity of sewers south along the balance of 4th Ave., South and east to the Chalet along the lakeshore. In view of the fact that few problems are expected along Lakeside Beach Road and several parties were opposed to sewers, services could be postponed at least temporarily in this area. Several of the parties who were opposed to sewers, had only

recently installed substantial private systems with Health Unit approval and quite naturally, were unhappy over the prospect of loosing their recent investments.

TROJAN AREA

LOCATION

This area is located $\frac{1}{2}$ mile north of the Ontario-Minnesota Pulp and Paper Company on the northern extremity of the Town of Kenora. It includes Melick, Trojan, Makado Avenues, and 11th, 12th and 13th Streets. For further clarification see the map attached as Appendix A. The estimated population of this area is between 125 and 150 persons all of whom are permanent residents.

SURVEY

The water and sewer facilities were examined at 42 residences in this area. Of the 42 residences surveyed, 38 purchase hauled water from the Town of Kenora and the remaining 4 have no water at all.

Private sewage disposal systems are relatively non-existent in this area as evidenced by the fact that 27 of the 42 premises surveyed, have only pit privies in conjunction (in some cases), with a leaching pit for sink-type wastes. Of the remaining 15 who did have systems, 4 were found to be marginal with the possibility of major problems developing. No major problems were uncovered at the time of the survey.

DISCUSSION

Many of the homes in this area using pit privies are on bedrock with a shallow cover of soil. If systems were contemplated, it would necessitate them being built up in many cases several feet above the existing grade, assuming the lots were large enough to even accommodate the fill required. Indeed many would be too small for the placement of fill and the resulting disfigurement would be intolerable. Consequently, even if cost were no object and the lots were large enough, it is doubtful if many of them could or would be developed within the applicable Provincial Regulations.

Many of the 27 homes on pit privies would very likely never be improved with installation of plumbing and private sewage disposal systems simply because the cost would not be within the reach of the persons involved. This may also be true even if services were provided, as many no doubt, could still not afford to improve their homes with plumbing facilities to utilize the services. Further, the increased tax load may be beyond the financial capabilities of many in this area.

CONCLUSIONS

The servicing of this area is not paramount from the standpoint of correcting malfunctioning private sewage disposal systems. Two or three newer homes on Melick Ave., have plumbing facilities installed which are not used but held in abeyance pending installation of services. Aside from these instances, it would seem appropriate to determine how many home owners would be prepared to utilize the services if they were provided.

PUMP, RAILWAY MAPLE AREA

LOCATION

In the east central part of Kenora accessible via Park Street. The various Oil Company bulk plants, two building supply firms, and a beverage firm are located on this section of Railway Street. For further clarification see the map attached as Appendix A. The permanent residential population of this area would be approximately 125 and the industrial population approximately 25.

SURVEY

The water and sewer facilities were examined at 35 premises in this area. Thirty-one of these are connected to the Town water system, two are on private wells and two have no water supply. Twelve of the 35 surveyed, had major sewage disposal problems and 11 potentially major sewer disposal problems. The sewage from these major problems in most cases, is gaining access to roadside ditches and/or depresional swamp areas, Laurenson's Creek and ultimately, Lake of the Woods. Three homes on the easterly lane extension between Maple and Park Street, discharge their sewage directly via a common sewer pipe to Laurenson's Creek.

DISCUSSION AND RECOMMENDATIONS

This area in terms of the percentage number of problems found has the greatest need for sanitary sewers. Thirty-four percent of the premises surveyed, had major problems and another 31 percent potentially major problems. In conclusion, little doubt can exist as to this area being designated the number one priority area, with respect to the installation of sanitary sewers within the Town of Kenora.

RAILWAY AREA

LOCATION

This area is located at the easterly extremity of the Town along Railway Street immediately south of the C. P. R. tracks. The only overpass over the C. P. R. on the east side and within the Town is in this area. The population is all permanent residential and would equal approximately 75 persons.

SURVEY

The water and sewer facilities were examined at 18 premises in this area. Nine of those surveyed, were connected to the Town water system, 2 purchased hauled water and 7 were on private wells. Of 4 wells sampled, none had faecal coliform organisms and 3 showed the presence of total coliform organisms in the amount of 2, 30 and 80+ respectively.

One major and 3 potentially major sewage disposal problems were uncovered among the 18 homes surveyed in this area. These problems were fairly well distributed through the area which makes it difficult to pin-point any part of the area which might be considered as having a greater number of problems.

DISCUSSION

This area could not be considered a priority area based on the number of problems uncovered at the time of survey. However, in the long-term, problems are bound to increase and the probability of remedial measures being available within the applicable Provincial Regulations are slight.

CONEY ISLAND AREA

LOCATION

This is a small area involving 8 premises on the easterly end or tip of Coney Island. Six of these premises are permanent homes with winter access by way of a foot-bridge across the gap from the mainland. One permanent home has winter road access over the ice around the back of Coney Island. Two of the premises are cottages used only seasonally during the summer period. The permanent population would be approximately 25 and the summer peak about 35.

SURVEY

The six permanent establishments surveyed in this area, are connected to the Town water supply and discharge their raw sewage directly to Lake of the Woods. Five discharge it via a common sewer pipe and one home has it's own direct sewage line to the Lake. One of the two seasonal dwellings in this area discharges sewage directly to the Lake and it could not be determined if the other had any facilities as it appeared to be derelict or abandoned at the time of survey.

DISCUSSION & RECOMMENDATIONS

Only two lots in this area are large enough to accomodate the installation of conventional private sewage disposal systems. One of these lots has a permanent and one a seasonal dwelling. The systems possible on these two lots would have to be installed in imported fill barged in at great cost and probably mounded a considerable distance above the existing grade, which would be aesthetically unacceptable. The possibility for installation of the "Aquarobic" private package sewage treatment unit exists on 4 of the 8 lots surveyed. Two of the 4 lots suited to Aquarobic are also the ones suited to the conventional system as noted above. The remaining four lots are too small to accomodate any system within the applicable Provincial Regulations and it is doubtful that improvisation of short term measures outside the scope of the Regulation would prove effective. In short, the only alternatives open to the owners of these four lots, within the applicable Regulations is to revert to the use of earth pit privies in conjunction

with leaching pits for sink-type wastes.

Some consideration may wish to be given to the feasibility of pumping the sewage from these establishments to a communal package sewage treatment system located on Town property in the central part of the Island. Such a communal system would require monitoring and maintenance on a continual basis, which would no doubt, necessitate an on-going involvement by the Town of Kenora. Aside from a proposal of this nature, it appears that municipal sanitary sewers are the best hope for this area if permanent residences are to be allowed.

SEVENTH AVENUE, SOUTH

LOCATION

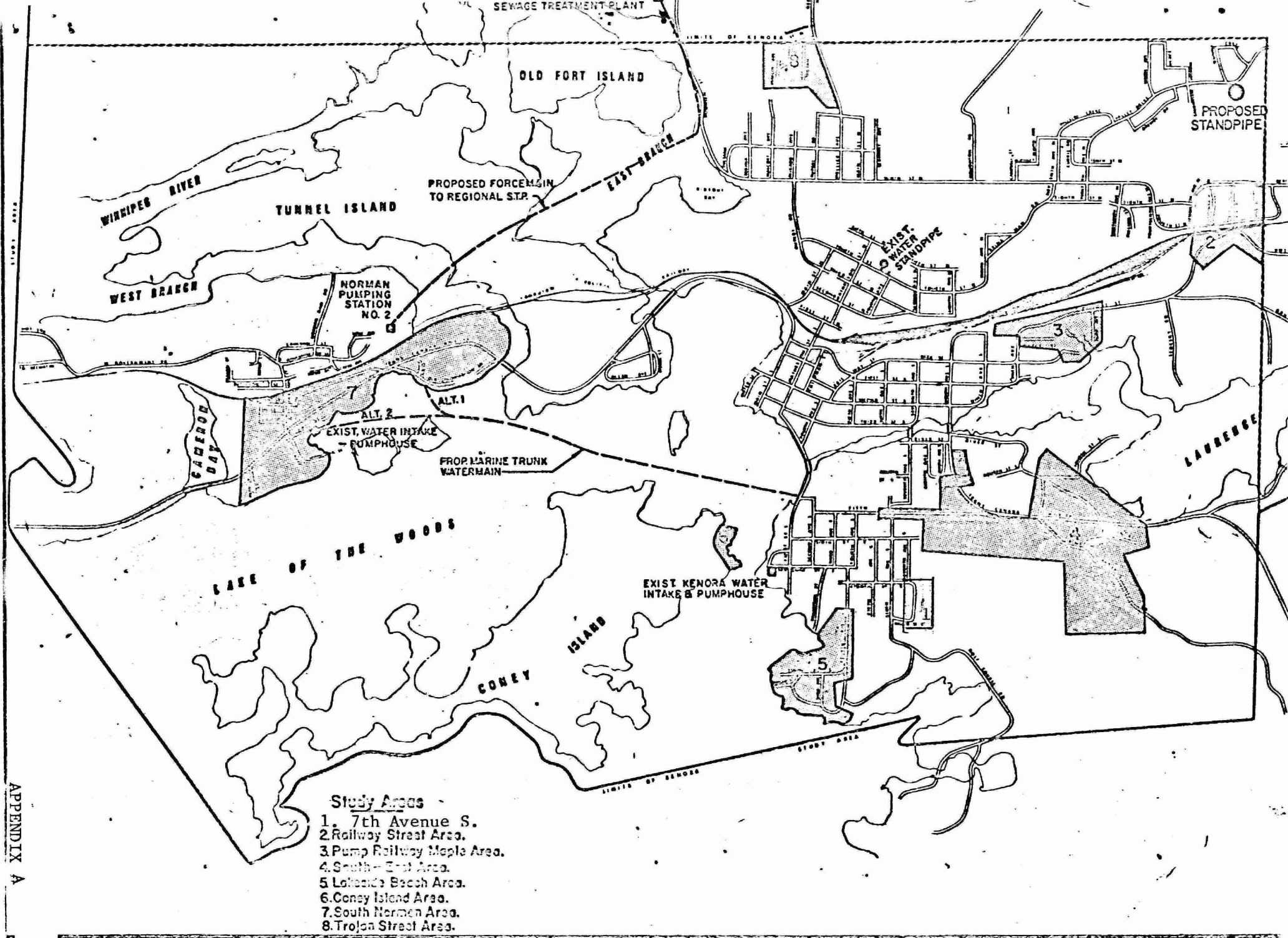
This is the smallest area surveyed encompassing 7 permanent residences along 7th Ave., South, between 6th and 8th Streets, South. This area is sometimes referred to as the Howard property after it's former owner.

SURVEY

Six of the 7 homes surveyed in this area, are connected to the Town water system. Two had major and 2 potentially major sewage disposal problems at the time of inspection.

DISCUSSION

There can be little doubt but that municipal sanitary sewers would correct many problems and eliminate the discharge of pollutants into the environment in this area. Sewage discharges from malfunctioning systems were gaining access to storm ditches and subsequently Laurenson's Creek and Lake of the Woods at the time of survey.



APPENDIX "B"

Following is a statistical breakdown of the number of major and minor (potentially major) sewage disposal problems found in each of the proposed areas for sewer. Information is also provided on the existing sources of water supply within the proposed areas.

Area	Number Surveyed	<u>Sewage Disposal</u>		Town Water Hauled by Truck	Town Water System	<u>Water Supply</u>		
		Number Minor Problems	Number Major Problems			Private Well	Lake	No Water
1. South Norman	77	10	14	19	51	0	7	0
2. Southeast	91	24	24	0	87	1	0	3
3. Lakeside Beach	36	2	5	0	12	2	21	1
4. Trojan Street	42	4 (27 Pit Privies)	0	38	0	0	0	4
5. Pump, Railway Maple	35	11	12	0	31	2	0	2
6. Railway	18	3	1	2	9	7	0	0
7. Coney	8	1	7	0	7	0	0	0
8. Seventh Ave. South	7	2	2	0	4	1	0	0
Total	314	57	65	59	198	13	28	8

APPENDIX C

<u>DATE</u>	KENORA - TREATED				KENORA - RAW			NORMAN - RAW		
	<u>No.</u>	<u>Good</u> <u>00</u>	<u>TCO</u>	<u>Adverse</u> <u>Fecal</u>	<u>No.</u>	<u>TCO</u>	<u>Adverse</u> <u>Fecal</u>	<u>NO.</u>	<u>TCO</u>	<u>Adverse</u> <u>Fecal</u>
<u>1973</u>										
Total No.	526	503	23	2	53	48	5	41	41	30
Percent	100	95.6	4.4	.4	100	90	10	100	100	73
<u>1974</u>										
Total No.	448	432	16	1	49	39	6	31	31	16
Percent	100	96.4	3.6	.2	100	79.5	12	100	100	52
<u>1975</u>										
Total No.	434	421	11	2	41	27	10	29	29	24
Percent	100	97	2.5	.5	100	66	24	100	100	83

NOTE:

Good

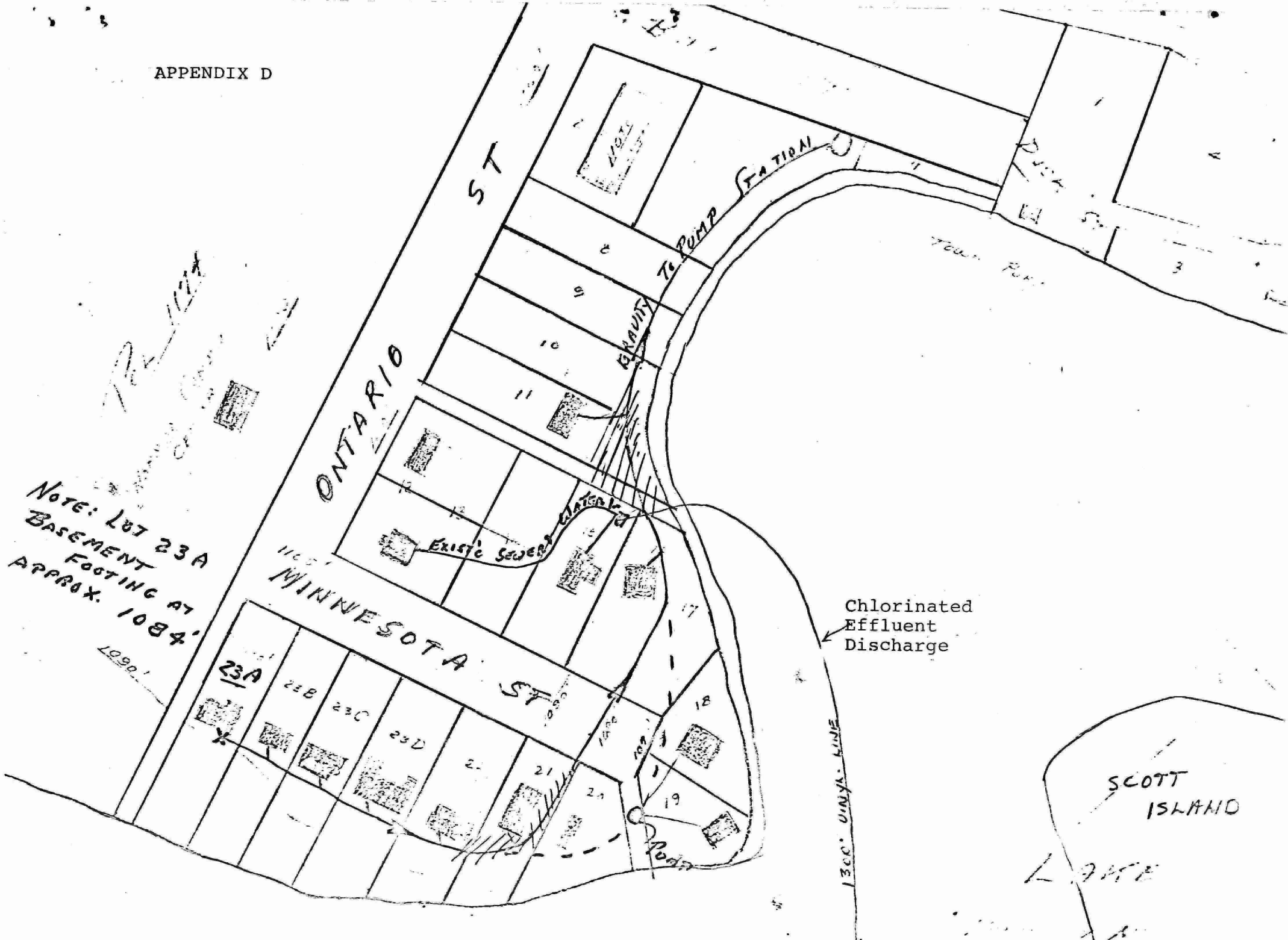
00= No TCO or Fecal coliform organisms

Adverse

TCO= Total Coliform organisms

Fecal= Fecal Coliform organisms

APPENDIX D





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